

What is claimed is:

1. A washing/drying machine, comprising:

an outer tub supported in a case, in which washing water is stored;

5 a drain hose connected from the lower side of the outer tub to the outside of the case, for draining washing water;

an inner tub installed rotatably in the outer tub, in which inputted clothes are washed or dried;

10 a driving motor installed at the lower side of the outer tub, for rotating the inner tub;

an air circulative duct connected from a side of the outer tub to the other side, in which air for drying the clothes inputted to the inner tub is circulated;

a blower installed in the air circulative duct, for compulsorily circulating the air;

15 a heating means installed in the air circulative duct, for heating the circulative air; and

a dehumidification means for dehumidifying air circulated into the air circulative duct using a refrigerating cycle.

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2. The machine of claim 1, wherein the inner tub is positioned rotatably centering around a rotation shaft positioned in the vertical direction of the case,

the case, outer tub and inner tub respectively have an opened upper
25 surface, and

a closing means for closing the inner portion is installed at the opened upper portion of the outer tub.

3. The machine of claim 1, wherein the air circulative duct is
5 diverged from the drain hose, and

a valve means for switching the opening and closing direction and flowing direction is installed at the position where the drain hose and the air circulative duct are diverged.

10 4. The machine of claim 1, wherein the dehumidification means is positioned at the rear side of the heater in the air flowing direction.

15 5. The machine of claim 1, wherein the blower, dehumidification means and the heater are consecutively installed in the air flowing direction in the air circulative duct.

6. The machine of claim 1, wherein a water pipe is connected to the lower portion of the air circulative duct to discharge dehumidified water.

20 7. The machine of claim 1, wherein the dehumidification means comprises a compressor, a condenser, a capillary tub and an evaporator which form the refrigerating cycle circuit, and

the evaporator is installed in the air circulative duct and the condenser is installed at the center portion of the drain hose to cool water by the water cooling
25 method in a water cooling tank for storing washing water discharged from the

outer tub.

8. The machine of claim 7, wherein a part of the refrigerant line for connecting the evaporator and condenser is cooled passing through the refrigerant line.

9. The machine of claim 7, wherein an open/close valve is installed in the drain hose connected to the lower side of the cooling water tank, and a water level control means for maintaining a certain water level is installed in the water cooling tank.

10. The machine of claim 7, wherein the water level control means further includes an overflow tube connected to the upper portion of the cooling water tank.

11. A clothes dryer, comprising:
a drum positioned in a case, in which clothes are dried;
an upper cover and lower cover which are fixed in the case and combined to both sides of the drum, for supporting the drum to rotate;
a driving motor installed at the lower cover, for rotating the drum;
an air circulative duct connected from the lower cover to the upper cover, in which air for drying the clothes inputted into the drum is circulated;
a blower installed in the air circulative duct, for compulsorily circulating air;
a heating means installed in the air circulative duct, for heating the circulating air; and

a dehumidification means for humidifying air circulated into the air circulative duct.

12. The dryer of claim 11, wherein the drum is positioned rotatably centering around a rotation shaft positioned in the vertical direction of the case and the case, outer tub and inner tub respectively have an opened upper surface.

13. The dryer of claim 12, wherein a closing means for closing the inner portion is positioned at the opened portion of the upper cover.

14. The dryer of claim 11, wherein the dehumidification means is positioned at the front side of the heater in the air flowing direction.

15. The dryer of claim 11, wherein the blower, dehumidification means and the heater are consecutively installed in the air flowing direction in the air circulative duct.

16. The dryer of claim 11, wherein a water pipe for discharging water dehumidified is connected to the lower end portion of the air circulative duct.

17. The dryer of claim 11, wherein the dehumidification means comprises a compressor, a condenser, a capillary tub and an evaporator which compose a refrigerating cycle circuit and the evaporator is installed in the air circulating duct.

18. The dryer of claim 17, further comprising:

a cooling water tank capable of storing a certain amount of cooling water to cool the condenser by the water cooling method.

5 19. The dryer of claim 18, wherein a drain pipe is connected to the lower end portion of the air circulative duct to discharge dehumidified water to the cooling water tank.

10 20. The dryer of claim 18, wherein a part of the refrigerant line for connecting the evaporator and condenser is cooled passing through the cooling water tank.